# URGENT ISSUES IN PUBLIC HEALTH*

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IT IS BOTH AN HONOR and pleasure to give the Anniversary Discourse address at this year's Stated Meeting of the New York Academy of Medicine. I certainly feel welcome among the membership of this organization whose fundamental mission is to improve the health of the public. During my tenure at the New York City Department of Health I have had the opportunity to work closely with the Academy and know firsthand what an extremely valuable resource it is.

The Academy's important leadership is reflected in the initiatives undertaken in public health. These fall into several major areas: urban health concerns; the interface of medicine, science, and society; recruitment and education for the health professions; and the health of the medical enterprise.

I hope to touch briefly on aspects of all of these areas in my remarks, for they are at the heart of so much of what we are attempting to accomplish for the future of public health and health care efforts. I plan to use this occasion to talk about some of the pressing public health problems before us—in this city and nationwide—and to acknowledge the critical importance of trying to forge stronger, more integrated relationships between the practice of public health and the practice of medicine, and academic medicine in particular.

Certainly, health care is very much on the minds of Americans these days. All aspects of our health care system are increasingly the subject of considerable scrutiny and calls for change.

This is a critical time for medicine and health—both because of the many daunting threats to health that we currently face and because of the opportunities truly to make a difference.

Unprecedented scientific advances during the past several decades have had powerful implications for our understanding of health and disease. Biomedical research has led to a virtual explosion of new knowledge with practical implications for both prevention and treatment efforts. Advances in the development of effective antibiotics have given us the tools to stem the

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toll of many infectious diseases. Our growing understanding of the body's complex immune and endocrine systems has enabled us to modify important bodily responses. The emergence of molecular biology and recombinant DNA technologies has created unprecedented opportunities to identify and to understand the nature of hereditary diseases and to recognize the connections between specific abnormalities in genes and proteins and clinical disorders.

These and many other advances in medical knowledge and technology—such as the use of sophisticated imaging devices—have greatly aided in the diagnosis, monitoring, and treatment of disease. While all of this has certainly contributed to the preeminence of American medicine, it is increasingly clear that the mechanisms and systems are not in place to make fully available the fruits of biomedical knowledge and that the panoply of scientific advances—now and in the future—are of limited value if they cannot be translated into meaningful care and services for those in need.

Nowhere more than in New York City is the problem of access to health care more apparent and more troublesome. Here, in the midst of the greatest concentration of sophisticated biomedical institutions and affiliated clinical facilities found anywhere on earth—including seven medical schools, 75 hospitals and 224 nursing homes, nearly a third of a million health care workers, and annual health care spending of some $30 billion—there are communities whose health indicators rival those found in many third world nations.

A staggering array of ongoing, entrenched, and interrelated problems threatens to overwhelm existing health care services and our precarious health care infrastructure, and threatens to do our profession and our city irreversible damage.

The eroded state of public health and the beleaguered condition of the health care system have become sad facts of life for too many New Yorkers. The litany of our problems has become all too familiar: hospitals and emergency rooms are overcrowded; primary care physicians, nurses, and almost every category of allied health worker are in short supply; some 1.3 million New Yorkers have no health insurance; and poverty is on the rise. Today, more than one out of four New Yorkers live in poverty, a fifth are near-poor, and nearly half of the city's poor are children.

Specific health indicators and trends reveal a disturbing picture about access to care and our inability to deliver interventions that we know to be effective.

Infant mortality rates in New York City are one third higher than the national average, and in some poorer neighborhoods rival many third world

rates. Nearly 15% of women who gave birth in the city in 1990 received no prenatal care or received it late.

Recent years have witnessed alarming increases in a variety of infectious diseases, including tuberculosis, sexually transmitted diseases, measles, and of course HIV/AIDS.

For example, after decades of decline, the incidence of tuberculosis rose 132% between 1980 and 1990, and our provisional 1991 count indicates that the incidence is still rising. With more than 3,600 cases estimated for 1991, tuberculosis is being reported in the city at five times the national average and three times the rate considered epidemic by the Centers for Disease Control. Tuberculosis rates in poor, underserved neighborhoods such as Harlem—where the disease was allowed to linger even as rates subsided around the nation and around the city—are many times higher than the overall city incidence rate. Multiple drug resistant tuberculosis has gone from a foothold to a beachhead, and it will clearly take both improved application of medical technology and improved case management of tuberculosis patients to beat it back.

Sexually transmitted disease rates, while not at the levels seen in the late 1980s, are still epidemic, and remain linked to a host of other maladies, including HIV infection and substance abuse.

Measles, a disease completely preventable through appropriate immunization, has run epidemic through poor neighborhoods during the two preceding winters, primarily affecting children younger than four.

And, of course, in recent years we have witnessed the skyrocketing of AIDS, with close to 40,000 cases, representing 18% of the nation's caseload, so far reported in the city.

Very much linked to an array of other serious and overlapping problems such as AIDS, tuberculosis and sexually transmitted diseases, an estimated 550,000 New Yorkers abuse drugs, including 125,000 teen-agers and 200,000 intravenous drug users. Fewer than 40,000 treatment slots are available, and most of those are strictly for heroin treatment, although most drug users in this city have serious problems with cocaine or polydrug use.

And violence—also often linked to substance abuse but arising from many other complex causes as well—is another major source of morbidity and mortality in New York City and constitutes a significant, and growing, public health problem. There are approximately six murders each day in New York City, and homicide is the leading cause of death among 15- to 24-year-olds. Violence accounts for a half million trauma-related emergency room visits annually. And violence, like virtually every health indicator, disproportion-

ately burdens poor, predominantly minority, communities. Should recent homicide trends continue unabated, a young black male growing up in New York City has about a one-in-25 chance of being murdered before he lives out his adult years.

The list of statistics could go on, but perhaps the sad state of affairs can be best summed up in one last figure: a black man living in Harlem is less likely to live until age 65 than a man living in Bangladesh.

It is evident that the situation is severe and worsening. What is more, many problems, or their roots, are intimately intertwined with issues that fall outside the traditional province of medicine and public health, issues such as drug use, violence, homelessness, and poverty.

Solutions will not come easily, and solutions will call for more resources at a time of worsening fiscal crisis. And, in the meantime, many of these problems land at the doorstep of our health care system.

While New York City is not alone in this—similar problems confront most urban centers—the intensity of the crisis here is certainly unparalleled. I am sure that the concerned leaders and experts assembled here tonight understand all too well the true meaning and the cost—both human and economic—of the numbers that I have cited.

What is striking, however, is the clear emergence of several common, even unifying, characteristics that underlie virtually every problem we face. And although these are hardly positive features, they do offer indications for where effective solutions, or at least meaningful strategies, may lie. These characteristics are poverty, disparity, and preventability.

That most health problems remain intertwined with poverty is beyond doubt. Correspondingly, disparities in disease rates between different socioeconomic, and hence ethnic and racial groups, are extreme. While poor, predominantly African-American and Latino neighborhoods experience modern-day record rates of disease and despair, certain largely white, middle-class and wealthy neighborhoods remain virtually unaffected.

As mentioned earlier, disparities are all the more ironic because of New York City's standing as a preeminent medical metropolis. Nowhere are the fruits of biomedical and technological revolutions more in evidence than in this city's concentration of premier medical institutions. Clearly, we must work harder to find ways to share more effectively the wealth of modern medicine.

Finally, most of the ills we are struggling to surmount are potentially preventable (in terms of either preventing onset of disease or disease progression or both), with appropriate primary care and preventive health strategies.

Certainly this holds true for many of the infectious diseases now escalating in parts of the city, as well as for many chronic conditions.

Evidence that New Yorkers suffer obstacles to appropriate primary health care is abundant, and sadly reflected in many of the poor health indicators cited, in a heavy burden of preventable illness and premature death, and in potentially avoidable health care costs. For example, we have a hospitalization rate for asthma that is *twice* the national average. The recurrence of measles, due largely to incomplete immunizations in preschool children, is another obvious example of a significant health problem facing us that could be alleviated by improved access to a system of primary care.

More broadly, the effectiveness of primary care services in decreasing use of emergency rooms and number of hospital admissions has been well documented. Yet, for poor and near-poor New Yorkers there is little or no access to primary health care—health care that is routine and available, affordable and accessible, comprehensive and continuing.

Although many factors contribute, one of the most profound obstacles to primary care faced by New Yorkers is unfortunately a lack of doctors and other critical health care providers. Not overall in New York City, and certainly not someplace like the Upper East Side, but in such communities as Central Harlem, Morrisania, Fort Greene, East Jamaica, and at least 10 other city neighborhoods, the numbers of physicians available for routine ambulatory care is very low indeed.

How do we know this? For one, the Community Service Society found in 1990 that in nine low-income communities in the Bronx, Manhattan, and Brooklyn, home to some 1.7 million people, only 28 physicians were practicing genuine primary care.

We know also that low-income New Yorkers are episodic users of hospital outpatient departments two to four times more frequently than more affluent New Yorkers. As many as half of emergency room visits at our municipal hospitals are for conditions that could have been prevented or treated more cost-effectively earlier through primary care. And, of course, the use of emergency rooms for primary care impedes access for those whose acute conditions require urgent care.

To examine this issue more closely, in 1990 the city's Health Systems Agency developed a useful index of our communities' health status, based upon age- and sex-adjusted hospital admission rates for illnesses that could be managed with comprehensive primary care services *outside* the hospital—conditions including adult asthma, female reproductive tract infections, diabetes, hypertension, pneumonia, and renal failure. That index, called the

Ambulatory Care Sensitive Index, has helped to designate "Health Crisis Zones" where effective primary and preventive care services are in short supply and has documented that some 1,800,000 New Yorkers live in these "Health Crisis Zones."

Illnesses selected for inclusion in the Ambulatory Care Sensitive Index also underscore that much of the disease burden of New Yorkers—despite current high profile media visibility of infectious diseases—are in fact chronic conditions. It is important to remember that both in New York City and across the country, the largest proportion of death, disability, and disease results from primarily chronic noncommunicable conditions, including heart disease, stroke, cancer, diabetes, lung and liver disease. As we talk about shifting of care away from the present system so strongly oriented toward acute care and hospital-based services toward a more primary care and preventive model, we must also place greater emphasis on strategies that effectively respond to the needs of certain established chronic conditions, including long-term care, home care, and case management.

Another important aspect of many of the diseases we face—whether acute or chronic—is that, to a large degree, they are associated with such behavioral risk actors as smoking, alcohol and other substance abuse, poor nutrition, high risk sexual behavior, and violent behavior.

At least to some extent, many important risk factors are modifiable. But we also must recognize the context in which many of these behaviors occur, and the terrible relationship so many of the risk factors have to poverty and disenfranchisement. While we must be careful not to blame victims, we also must use every opportunity to address these very real health concerns.

Many of the most pressing public health problems facing us, AIDS, substance abuse, sexually transmitted diseases, and unwanted pregnancy among them, are rooted in very fundamental behaviors—behaviors that neither the health professions nor society as a whole have adequately addressed.

We must find better ways. We must learn more about health-related behaviors, both biologically and sociologically, and particularly about the determinants of behavioral change; about what constitutes effective health education; and about how best to disseminate public health information. We spend a lot of time and money on education and outreach campaigns, but we still know little about what works and why.

Fortunately, we do have the medical knowledge and technology to deal effectively with many of the diseases that plague this city—both the resurgent communicable diseases like tuberculosis, measles, and sexually transmitted diseases, as well as such chronic conditions as hypertension control for the

prevention of cardiovascular disease and stroke. We have known much of this for years, yet we have failed to apply that knowledge effectively to diagnose, treat, cure, and ultimately prevent large numbers of cases. Because of the erosion of critical public health services and our public health infrastructure, we have been unable to deliver to all who need them the kinds of health services that we know make a difference.

Sadly, preventive services and strategies are to many of a low priority; they tend to be the first to go when budgets are tight, but we must struggle to hold on to a long-term view. Prevention has proved effective. Despite short-term budget pressures, we must fight to preserve the primacy of prevention.

Furthermore, efforts to maintain and to expand critical prevention programs and services must move forward in tandem with efforts to rebuild our imperiled public health infrastructure—both to deal with the existing and resurgent threats to health already discussed, but also to be prepared to deal with the challenge of the new.

The unexpected emergence of HIV/AIDS is a sobering reminder of the need to be prepared. Over the next decade and well into the future, the health sector will no doubt have to cope with new or previously unrecognized diseases—as we have with Legionnaires, toxic shock syndrome, and, most distressingly, HIV infection and AIDS.

In this regard, I would hope that we have learned from our experience with the AIDS epidemic how to cope more effectively with a new infectious disease. But in preparing for the unexpected or unprecedented challenge to human health, it is highly likely that the next threat will come not from a newly recognized organism, but rather from existing organisms that conquer new territory and gain access to new host populations, primarily as a result of human activities and the environmental changes that we produce.

Factors that may help infectious organisms to emerge and to take hold include increasing urbanization, immigration, and international travel that allow diseases to travel faster, further afield, and spread more easily. In addition, changing agricultural practices may expose humans to animal borne diseases, and environmental manipulations may alter potential exposures or vectors of disease.

But perhaps the greatest threat for potential spread of undetected or previously insignificant disease causing organisms to take hold and produce disease is complacency about such fundamental public health practices and interventions as immunization, sanitation, and infection control measures. For whatever reasons, it is clear that the pattern of emerging new diseases—infectious, environmental or other—is not likely to go away. If anything, it

will worsen due to the increasing mobility and complexity of modern life. A better understanding of these issues and concerns—from basic science to practical intervention—clearly must be a part of the public health agenda in the future.

In closing, I want to reiterate the critical importance of the interrelated roles of medicine and public health in confronting our current health care crisis and in responding to current and future opportunity.

We need to look critically at our work and our own work lives, and to adapt the very tenets of our profession—those that have guided us in the treatment of the individual patient—to address the treatment of the societal malady that we face. The institution of medicine—the very way we *do* medicine, beginning with our schooling—can be changed for the better and should be changed for the better.

Medicine is still very categorical and very subspecialty oriented. Clearly, there is nothing wrong with subspecialty care per se. In fact, it is essential and often of vital importance. Yet because so many of our growing health problems are so intimately intertwined, if we are to find meaningful and enduring answers we shall have to step beyond the categorical approach to disease and clinical specialty that has so dominated this nation's medical care and the approach of most health departments. With problems such as sexually transmitted disease, HIV, and drug abuse, we will make only minimal gains if we address just one problem in isolation and do not take a more comprehensive approach.

Similarly, we must venture more aggressively beyond the walls of medical institutions into the communities we ultimately serve, and develop opportunities to promote health rather than always repairing disease.

Primary care approaches allow us to do this effectively. Yet despite increased attention to the issue of primary care and the growing documentation of its benefits to individual and societal health, the shift away from primary care and generalism, in fact, appears to be increasing. This shift away from the very type of care most needed in this city and this nation is unfortunate and ironic, but I suppose at some level understandable. The reimbursement and prestige structure of medicine heavily favors the subspecialties, to the detriment of generalism and primary care.

It is essential that we restructure the medical mindset to emphasize the importance of preventive care. The biomedical advances in knowledge that have fostered an era of intensive intervention aimed at acute problems can also be channelled into revitalizing our prevention efforts.

We certainly have some accomplishments to point to. Significant progress

has been made in developing the biological, social, and behavioral science base in certain key areas of health promotion and disease prevention. For example, over the past few decades this country has witnessed spectacular declines in death rates from such conditions as heart disease and stroke, thanks in part to basic science advances in the understanding of atherogenesis and the development of new medical technologies, but primarily due to the documentation of the epidemiologic relationships between such factors as cigarette smoking, dietary habits, and hypertension control, and pursuing these with aggressive public health campaigns and appropriate medical interventions.

We need to accomplish this same level of cross-disciplinary collaboration around a long list of other critical health problems before use. Without in any way abandoning our ongoing committment to the highest quality medicine and biomedical science, we must find a way to take better hold of this system and to alter it for the benefit of the people it is intended to serve. We should do this both out of basic compassion for the poor and underserved—who suffer disproportionately from the present circumstance—and for the betterment of our own profession.

Appropriately, great concern has focused recently on the drop-off in residency requests for formerly sought-after positions, the increased difficulties in overall residency matching, and previously unheard of recruitment problems for deans and chairs. Is this the future we want for the city's health care system?

Without professional pride in our collective institution, and commitment to its future growth and capacity to thrive, we shall have great difficulty convincing others—and, indeed, in persuading ourselves—that New York City is the mecca for physicians seeking service, fulfillment, and reward. Medicine and the public health enterprise, hand in hand, can restore both the vitality of our people and of the institution of medicine.

I look forward to working with you as we advance our shared missions of improving the health for all through education, services, and research.